

What is claimed is:

1. A wide-signal bandwidth multi-access channel comprising a plurality of units each including:
 - a first circuit adapted to receive photonic signals representative of a transmittable signal; and
 - a second circuit adapted to transmit multiplexed photonic signals representative of a multiplexed data signal, wherein the units are operably coupled to a third circuit and a subsequent set of the units, wherein such coupling provides a ring network configuration.
2. The wide-signal bandwidth multi-access channel of claim 1, wherein each of the plurality of units further comprise:
 - a first module comprising a first surface aligned with the second circuit;
 - and
 - another first circuit aligned with a second surface of the first module.
3. The wide-signal bandwidth multi-access channel of claim 1, wherein each of the plurality of units further comprise:
 - a second module comprising a first surface aligned with the first circuit;
 - and
 - another second circuit aligned with a second surface of the second module.

4. The wide-signal bandwidth multi-access channel of claim 1, wherein each of the plurality of units further comprise:

an optical window comprising a top edge and a bottom edge;

an enclosure coupled to the top edge of the optical window; and

a bottom plate coupled to the bottom edge of the optical window, wherein the first circuit and the second circuit of each of the units are protected.

5. The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel is adapted to allow all units on the ring network to simultaneously transmit and receive user data segments.

6. The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel consists of a fiber optic cable.

7. The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel consists of two parallel fiber optic cables running counter directionally to one another.

8. The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel consists of an infrared data signal path.

9. The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel consists of a radio frequency data signal path.

10. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals comprise a multiplexed data carrier signal comprised of Ethernet packets.
11. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals comprise multiplexed data carrier signals comprised of Frame Relay packets.
12. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals are frequency domain multiplexed (FDM) signals.
13. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use On-Off Keying waveforms.
14. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use Frequency-Shift Keying waveforms.
15. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use Quadrature-Phase-Shift Keying waveforms.
16. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use Quadrature-Amplitude-Modulation waveforms.

17. The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use a proprietary modulation.